

IN THE CLAIMS

Claims 1-50 (canceled).

51. (new) A storage system internally comprising:

a plurality of disk drives for corresponding to a plurality of fibre channel interface paths;

a controller to be coupled to a network for controlling data transfer from/to an another computer coupled to said network and controlling data transfer for said plurality of disk drives;

an another computer interface disposed a side of said another computer in said controller for receiving data sent from said another computer via said network;

a disk drive interface disposed a side of said disk drives in said controller for receiving data sent from said another computer via said another computer interface and transferring data sent from said another computer for said plurality of disk drives; and

a plurality of switches, each plurality of switches coupled to said controller via at least one of path, coupled to said plurality of disk drives via said plurality of fibre channel interface paths;

wherein the number of said at least one of path is less than the number of said plurality of fibre channel interface paths;

wherein said plurality of disk drives store data sent from said another computer through said switches, and each of said plurality of disk drives has an identification (ID) number; and

wherein said switches establish a switch connection between said disk drive interface and said disk drives, and transfer data to a selected disk drive among said plurality of disk drives via a fibre channel interface path among said plurality of fibre channel interface paths based on information of said ID number of the selected disk drive to which data is to be written upon receiving said data from said disk drive interface.

52. (new) The storage system according to claim 51, wherein said switches dynamically switch between said plurality of disk drives.

53. (new) The storage system according to claim 51, wherein said controller generates a parity data from data sent from said another computer, and wherein at least one of disk drive of said plurality of disk drives stores said parity data.

54. (new) The storage system according to claim 51, wherein said controller generates a parity data from data sent from said another computer, and wherein some disk drives of said plurality of disk drives stores data without said parity data.

55. (new) The storage system according to claim 51, wherein at least one of disk drive of said plurality of disk drives is a spare disk drive, said spare disk drive storing data from another disk drive of said plurality of disk drives.

56. (new) The storage system according to claim 51, wherein a first one said disk drive is capable of communicating with said switches independently of a fibre channel interface path associated with a second said disk drive.

57. (new) The storage system according to claim 51, wherein said at least one of path is a fibre channel interface path.

58. (new) A storage system comprising:

- a plurality of disk drives for corresponding to a plurality of fibre channel interface paths;
- a controller to be coupled to a network for controlling data transfer from/to an another computer coupled to said network; and
- a switch coupled to said controller via at least one of path and coupled to said plurality of disk drives via said plurality of fibre channel interface paths;

wherein the number of said at least one of path is less than the number of said plurality of fibre channel interface paths;

wherein said plurality of disk drives store data sent from said another computer through said switch, and each of said plurality of disk drives has an identification (ID) number; and

wherein said switch establishes a switch connection between said controller and said disk drives, and transfer data to a selected disk drive among said plurality of disk drives via a fibre channel interface path among said plurality of fibre channel

interface paths based on information of said ID number of the selected disk drive to which data is to be written upon receiving said data from said controller.

59. (new) The storage system according to claim 58, wherein said storage system has a plurality of said switches, each plurality of switches coupled to said controller via each of said at least one of path.

60. (new) The storage system according to claim 58, wherein said switch dynamically switches between said plurality of disk drives.

61. (new) The storage system according to claim 58, wherein said controller generates a parity data from data sent from said another computer, and wherein at least one of disk drive of said plurality of disk drives stores said parity data.

62. (new) The storage system according to claim 58, wherein said controller generates a parity data from data sent from said another computer, and wherein some disk drives of said plurality of disk drives stores data without said parity data.

63. (new) The storage system according to claim 58, wherein at least one of disk drive of said plurality of disk drives is a spare disk drive, said spare disk drive storing data from another disk drive of said plurality of disk drives.

64. (new) The storage system according to claim 58, wherein a first one said disk drive is capable of communicating with said switch independently of a fibre channel interface path associated with a second said disk drive.

65. (new) The storage system according to claim 58, wherein said at least one of path is a fibre channel interface path.

66. (new) A storage system comprising:

- a plurality of disk drives for corresponding to a plurality of fibre channel interface paths;
- a controller to be coupled to a network for controlling data transfer from/to an another computer coupled to said network; and
- a switch coupled to said controller via at least one of path and coupled to said plurality of disk drives via said plurality of fibre channel interface paths;

wherein the number of said at least one of path is less than the number of said plurality of fibre channel interface paths;

wherein said plurality of disk drives store data sent from said another computer through said switch; and

wherein said switch receives data from said controller, and transfer data independently to individual ones of said plurality of disk drives over individual ones of said plurality of fibre channel interface paths.

67. (new) The storage system according to claim 66, wherein said storage system has a plurality of said switches, each plurality of switch coupled to said controller via each of said at least one of path.

68. (new) The storage system according to claim 66, wherein said switch dynamically switches between said plurality of disk drives.

69. (new) The storage system according to claim 66, wherein said controller generates a parity data from data sent from said another computer, and wherein at least one of disk drive of said plurality of disk drives stores said parity data.

70. (new) The storage system according to claim 66, wherein said controller generates a parity data from data sent from said another computer, and wherein some disk drives of said plurality of disk drives stores data without said parity data.

71. (new) The storage system according to claim 66, wherein at least one of disk drive of said plurality of disk drives is a spare disk drive, said spare disk drive storing data from another disk drive of said plurality of disk drives.

72. (new) The storage system according to claim 66, wherein a first one said disk drive is capable of communicating with said switch independently of a fibre channel interface path associated with a second said disk drive.

73. (new) The storage system according to claim 66, wherein said at least one of path is a fibre channel interface path.

74. (new) A storage system comprising:
a plurality of disk drives for storing data sent from external of said storage system; and
a switch, coupled to a controller and said disk drives, for selecting a disk drive from said disk drives, and causing data sent from external of said storage system to be transferred to said disk drives,
wherein said disk drives coupled to said switch via a plurality of fibre channel arbitrated loops,
wherein the number of one or more paths between said controller and said switch is less than the number of said plurality of fibre channel loops, and
wherein said switch determines a transfer destination disk drive to which said data sent from external of said storage system is to be sent and transfers said data sent from external of said storage system to said transfer destination disk drive via a corresponding fibre channel arbitrated loop among said plurality of fibre channel arbitrated loops.

75. (new) The storage system according to claim 74, wherein said storage system has a plurality of said switches, each plurality of switches coupled to said controller via each of said one or more paths .

76. (new) The storage system according to claim 74, wherein said switch dynamically switches between said plurality of disk drives.

77. (new) The storage system according to claim 74, wherein said controller generates a parity data from data sent from said another computer, and wherein at least one of disk drive of said plurality of disk drives stores said parity data.

78. (new) The storage system according to claim 74, wherein said controller generates a parity data from data sent from said another computer, and wherein some disk drives of said plurality of disk drives stores data without said parity data.

79. (new) The storage system according to claim 74, wherein at least one of disk drive of said plurality of disk drives is a spare disk drive, said spare disk drive storing data from another disk drive of said plurality of disk drives.

80. (new) The storage system according to claim 74, wherein a first one said disk drive is capable of communicating with said switch independently of a fibre channel arbitrated loop associated with a second said disk drive.

81. (new) The storage system according to claim 74, wherein said at least one of path is a fibre channel arbitrated loop.

82. (new) A storage system comprising:

a plurality of disk drives for storing data sent from external of said storage system; and

a switch, coupled to a controller and said disk drives, for determining a disk drive from said disk drives, and causing data sent from external of said storage system to be transferred to said disk drives,

wherein said disk drives coupled to said switch forms a fibre channel arbitrated loop,

wherein the number of one or more paths between said controller and said switch is less than the number of paths between said switch and said plurality of disk drives, and

wherein said switch determines a transfer destination disk drive to which said data sent from external of said storage system is to be sent and transfers said data sent from external of said storage system to said transfer destination disk drive via a corresponding path between said switch and said destination disk drive.

83. (new) The storage system according to claim 82, wherein said storage system has a plurality of said switches, each plurality of switches coupled to said controller via each of said one or more paths .

84. (new) The storage system according to claim 82, wherein said switch dynamically switches between said plurality of disk drives.

85. (new) The storage system according to claim 82, wherein said controller generates a parity data from data sent from said another computer, and wherein at least one of disk drive of said plurality of disk drives stores said parity data.

86. (new) The storage system according to claim 82, wherein said controller generates a parity data from data sent from said another computer, and wherein some disk drives of said plurality of disk drives stores data without said parity data.

87. (new) The storage system according to claim 82, wherein at least one of disk drive of said plurality of disk drives is a spare disk drive, said spare disk drive storing data from another disk drive of said plurality of disk drives.

88. (new) The storage system according to claim 82, wherein a first one said disk drive is capable of communicating with said switch independently of path associated with a second said disk drive.